

DISEASES

OF THE

CHEST

Official Organ of the Amer. College of Chest Physicians
Editorial & Business offices Physicians Postgraduate Press,
500 North Dearborn Street, Chicago, Illinois.

Printing offices, Alamogordo Road, El Paso, Texas.

MEMBER: ASSOCIATED EDITORS OF TUBERCULOSIS PUBLICATIONS



(A MONTHLY PUBLICATION)

Subscription: United States \$2.50
per year. Other countries
\$3.00 per year.

Entered as second-class matter
August 18, 1936, at the post office
at El Paso, Texas, under the Act
of August 24, 1912.

Editorial Comment

Preview— 1941 Meeting

The seventh annual meeting of the College, in addition to all of the very excellent arrangements that have been made for the care and entertainment of its Fellows and Associates, will also have a very fine scientific program.

Three scientific sessions will be held and the papers presented by a group of the most distinguished men in the profession. These articles will deal with current problems of interest in the field of chest diseases, and will give the latest information, relating to the advances in research and clinical endeavor.

"Information Please," which was so successfully conducted at the last meeting will again be found on the program as an important noon gathering, with six distinguished specialists occupying the rostrum. The answers to questions propounded will come in rapid-fire order; and the discussion and debate, while limited in time, promises to be most interesting. Problems that affect any phase of chest diseases can be readily clarified for the individual who wishes information from the most authoritative sources.

A special session will be devoted to a meeting of teachers in medical schools. These men

will attempt to clarify and unify the problem of instruction in chest diseases. This session will be sponsored by the Committee on Medical Education of the College, under the direction of the Chairman of that Committee, Dr. E. W. Hayes.

A number of very fine clinical sessions in the hospitals and sanatoria in and around Cleveland have been arranged under the direction of the Chairman, Dr. Joseph Placak, so that the best men in this community will have an opportunity to demonstrate their personal achievements and contributions to the progress made in the management of chest diseases.

Reports of the activities of the Committees of the College during the past year will also be presented, along with the usual business meetings.

The dates set for the meeting are May 31-June 2, 1941. The city is Cleveland and its headquarters hotel, The Statler. Desirable room reservations are already becoming difficult to obtain and we suggest that you notify the Executive Secretary of the College at once regarding your needs. He will then make arrangements with the management of the Statler Hotel to take care of your requirements. Do this now.

B. G.

Tuberculosis and Alcoholism

Every doctor who has tried to cure the tuberculous patient who is an Alcoholic, knows that an otherwise readily curable patient is rendered incurable due to the effect not only of the "spree," but also to the let down in observation necessary for treatment. The doctor also knows that the alcoholic tuberculous patient constitutes the greatest menace to health of the family and public, due to the disregard of sanitary sputum disposition engendered by the alcoholic state.

Public health enemy No. 4 is the disease Alcoholism. Its effects are so widely spread, directly and indirectly, that the medical profession should have a better understanding of it. There are over one half million alcoholics in the United States. Medical science has little to offer and psychiatry shows but 1 to 2 per cent recoveries. It is obvious, therefore, that any type of therapy showing possibilities for recovery should be studied and encouraged by the medical profession. The laymen have confidence in the physicians of this nation and the alcoholic, like others, appeals to the physician for help. A careful study for a period of a year of a new approach to this vital problem has shown results so dramatic that it warrants serious consideration by the medical profession.

The first point to understand is that there is a difference between a man who drinks or even a heavy drinker and an alcoholic. An alcoholic is one who is or has become allergic to alcohol. Any drinker may become an alcoholic at any time, just as one may, after having breathed pollen laden atmosphere for years, suddenly have hay fever attacks. The normal effect of too many drinks on any man is well known. However, when an individual is "allergic" to alcohol, a different part of the brain is involved and a sudden or gradual personality change takes place. The victim loses control of his or her drinking, cannot function unless stimulated by alcohol and eventually begins periodical sprees and finds he is unable to stop drinking.

The personality change, irritability, sensitivity, emotional instability, leads to loss of position, social and economic; a hopeless outcast with early death or insanity is the final outcome.

The second point to understand is that once an alcoholic, always an alcoholic. Such a person can never touch alcohol in any form. An outstanding example of this is the case of a prominent physician, an alcoholic, who wrote one of the most interesting books and saved many lives through his work. After being "dry" several years, he took one drink, was unable to stop and died of alcoholism within a year, proving the point he tried to show others; that once an alcoholic, always an alcoholic.

This "new approach" to alcoholism which shows such remarkable results is a Fellowship known as "Alcoholics Anonymous," started six years ago by an alcoholic, that now numbers 2000 with a recovery record of 60 to 70 per cent. Most of the patients are being recruited from public and private institutions through the work, sad to relate, not of physicians, but of the victims themselves.

The Philadelphia group started in March, 1940, with eight men. It now has 75 members with about 100 at each meeting, the non-alcoholics being wives, families, employers and professional men. Each member feels bound to aid newcomers and frequently, unless members do seek and assist others, they find they cannot stay sober themselves.

The requirements for membership are simple:

1. Admit that he is powerless over alcohol.
2. Sincere desire to be cured.

There are no fees, no dues, no officers, no hospitalization unless a man is on a "binge" at the time and then only to be detoxicated. The patient is welcomed to the group, all of whom have been through the degrading experiences of continued drinking, humiliation, suffering, unpleasantness and destruction. Now begins the way back to new life, health and happiness. Success, in the opinion of observers, is due to the social contact, the personality and spiritual changes and to the work of rehabilitating other victims of the disease. There is always a helping hand and personal daily contact leading to mutual help and understanding.

Many hospitals have cooperated in this movement, notably St. Luke's and Children's Medical Center, Philadelphia; Charles B. Towns Hospital, New York; Rockland State

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Case Finding: The Basis of Tuberculosis Control*

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Case finding, as a basic element in the control of tuberculosis, is not a new concept; it has been recognized for as many years as we have known the cause of the disease. However, in the years since the discovery of the tubercle bacillus by Robert Koch, the emphasis seems to have veered strongly to the institutional and treatment aspects of the disease. In fact, as we view the tuberculosis program in this country today, it is apparent that the treatment of the case per se absorbs, by far, the major part of the funds available for the control of the disease. The treatment and proper isolation of the infectious case is still a major part of the control program, and it is obvious that we have an insufficient number and an inequitable distribution of beds to meet the currently known problem.

For many years, the number of acutely and chronically ill tuberculous have been so great that all available hospital facilities have been filled to overflowing with advanced cases, and there has been little or no improvement in this situation as the years have passed. Treatment facilities and therapeutic devices have improved throughout the years, yet when it is realized that approximately 90 per cent of hospital admissions are in an advanced stage, that 20 per cent of discharges are by death, and that less than half of those discharged may be expected to survive five years without relapse, it must be evident to all that more consideration should be given to the discovery of the case in an early and more favorable stage of the disease.

It is not necessary at this time to discuss in detail the importance of examining contacts to open cases and those with suspicious or definite symptoms of the disease. These are well established sources of case-finding well known to every physician. However, the exploitation of these fields alone will never reach all of the early or advanced cases that are present in the community.

The early or minimal lesion of tuberculosis

is almost invariably without symptoms and physical findings and there is no history of exposure in the majority of instances. In other words, if the disease is to be discovered in its early stages, it will be necessary to examine those in apparent good health. This thesis has been accepted by tuberculosis workers for several years and the only question that may be raised at this time is the selection of the population to be examined and the methods to be used.

Until recently, tuberculosis surveys of the apparently healthy population had been largely confined to the school child. In many instances these programs have been of the greatest educational value in that they have stimulated community interest in the problem, and they have been the spring board from which the local program has developed. Their value as a means of case-finding has been sharply limited when compared to more recent studies among adult populations.

It is not meant to imply that efforts should not be made among the school populations, but rather that there be a reasonable balance of emphasis and expenditure of funds between the child and adult population.

The estimation of the local problem and, therefore, the indicated place for major emphasis is readily available in most communities. It may be found by an analysis of the mortality and morbidity by age and sex, which clearly indicates that tuberculosis is a problem under two years of age and above 15, reaching its peak in females at about 30 years, and in males at about 50 years. By far, the greatest numbers of cases are to be found among those above 15 years, chiefly above 20 years of age.

If the matter of race be evaluated, it is found that there are marked differences that vary by age and sex as compared to the population as a whole. The colored races are more susceptible and their disease progresses more rapidly than is common among the white as a group. Jews are more resistant than non Jews, also there are other characteristic differences between other racial stocks

* Presented before the Sixth Annual Meeting, American College of Chest Physicians, New York City, June 8, 1940.

that are known in different parts of the country.

Tuberculosis is a close companion to poverty and, therefore, wherever unemployment, tenement house dwellers, or lowered economic conditions prevail, there is certain to be a relatively higher amount of tuberculosis than among those in the skilled trades and those in better economic environments. Thus, tenement house areas, those on relief or low income will be more important as susceptible groups than that part of the population living in single houses on a good income, though there is some tuberculosis to be found in all stations of life.

The methods to be used in mass surveys of the apparently healthy must be considered from the important item of cost per examination. In fact, it is this phase of the work that in most instances determines what, if anything, will be done. The tuberculin test will indicate the presence of infection and, therefore, eliminate the non-reactors for the examination by radiograph. It should be used in all surveys among school children, college students, and, if possible, among adults, especially where the known incidence of infection is low. The test, as now applied, is adequate to reveal all cases that may be expected to have significant lesions. The use of the test among adult populations in most communities, however, is of questionable value. Because their infection rate is high, they as a rule, resist such tests, and the additional time required for giving the test, reading the reaction and then taking x-rays, is more than can be expected.

The radiograph is the most important diagnostic method for finding early tuberculosis, and if the unit cost could be reduced to a figure permitting the routine x-ray of the masses, it would be the examination of choice. Here in New York City the rapid roll paper method has been used with entire satisfaction from the standpoint of diagnostic detail, but the unit cost is still too high to permit the large scale operations indicated on the basis of our known problem. Nevertheless, at existing costs, it would be cheaper to invest greater amounts in case finding today because such a program will hasten the day of complete control of the disease.

The new fluorographic methods, utilizing

35 mm. or 4x5 film have reported marked reductions in unit costs. In fact, the quoted costs of one to five cents per film are misleading, as such costs do not include the necessary overhead. One company, offering the 35 mm. fluorograph on a contract basis similar to the roll paper method in which the vendor provides all equipment, technicians, and does the processing of the film, is charging sixty-five cents per examination as compared to seventy-five cents for the roll paper method. The difference in basic cost between the radiographic and fluorographic methods can only be the difference in the cost per unit of films, which ranges from about twenty to fifty cents and is dependent upon the type of film and equipment used.

The improvement in the fluorograph within the past year gives promise that it will be ready for general use in the near future. In the 35 mm. size, the equipment is easily moved from place to place and can operate on ordinary 220 a.c. lines—thus, is, therefore, more suitable to the needs of general survey work. The 4x5 inch fluorograph equipment is not mobile and will be of value only in a permanent set-up where the population to be examined can come to a central station.

The tuberculosis case finding program in New York City has been developed through district clinics, consultation services for the private physician, and the mass survey of adult populations. Some results of the latter method have been published in detail in a current supplement to the *American Review of Tuberculosis*.

In the routine clinics operated by the Department, we have made some noteworthy innovations that are of interest. The type of population attending these clinics comes predominantly from the lowest income groups of the city, and even though the services are free to any resident, those able to pay for private care go to their family physician. Our experience has shown that if a child survives his third birthday without developing significant tuberculosis, he will, in all probability, be safe until he reaches ten years in the colored and twelve in the white. Thus, we do not attempt to routinely examine him during that period. As at least one-third of the children coming to our clinics (under 15 years) react to tuberculin, we are now rou-

tinely x-raying all new cases without the tuberculin test. In fact, all new admissions, children and adults, are routinely x-rayed on paper in cut sheets. The only cases that are followed with a complete history, physical examination, sputum, etc., are those who show a suspicious or definite lesion by radiograph. An attempt is made to periodically supervise the adolescent and young adult contacts until they reach 30 years of age. The inauguration of this plan has saved the Department many thousands of dollars in service per year. It has served to expand the clinic service to more individuals without adding new personnel and has placed the emphasis on important cases.

Consultation clinics are operated for the private physician with cases which are unable to afford standard charges for such services. There are over 10,00 individuals examined in the designated consultation centers although many more are referred to the district clinics by their physicians for a similar service. In view of the fact that these cases invariably have some presenting symptom, causing their physician to become suspicious of tuberculosis, the amount of tuberculosis found is considerably higher than in the other methods of case finding. The average yield in significant pulmonary tuberculosis has been about 10 per cent, of which about one-third are minimal lesions.

The two foregoing methods of case-finding are basic steps in our program. As a result of the success in mass surveys, we have within recent months attempted to develop the same principal on a local basis using the district clinic as an x-ray center for the apparently healthy. In such a study, now under way, we have been able to secure voluntary cooperation of approximately sixty per cent of the adults on relief within a given area. This has been possible through the assistance of the Department of Welfare and, in particular, its field investigators in the district. With the success attained in this trial area, it is logical to expect that the same principal may be applied in other areas without adding greatly to the personnel cost of our services. When it is realized that there are estimated to be 300,000 adults on relief in New York City and our surveys thus far have revealed from two to three per cent with significant pulmonary

tuberculosis, of which 70 per cent are minimal, the potentialities of the plan as a major case-finding procedure are readily apparent.

In the mass surveys of the apparently healthy in New York City, an effort has been made to secure substantial samplings according to age, sex, race and economic characteristics of the population. From these studies it will be possible to determine for the future an equitable distribution of our funds and effort in conformance with the seriousness of the presenting problem.

The high school population, with an average of 16.2 years, is the lowest age studied thus far. In 15,795 examinations, a total of 58 or 0.4 per cent were classified as significant. The percentage varied from 0.1 in a boy's school representing better than average economic background, to 0.8 in a girl's school with a large percentage of colored. Thus, in the high schools, future work will be restricted to low income areas and the colored in preference to a wholesale program for all such schools.

The colleges operated by the City of New York represent the next age groups (18.8 years). In 16,810 examinations, only 34 or 0.2 per cent were classified as significant tuberculosis. This low yield is accounted for by the fact that 85 per cent of the enrollment were Jews, and they generally came from good economic surroundings. Routine surveys in this group are less productive than in selected high schools, and should be rated in accordance with their yield in new cases.

The National Youth Administration enrollees were of the next highest average age of 20.8 years. Of 8708 examinations, 79 or 0.8 per cent were classified as significant pulmonary tuberculosis. A yearly examination of this population should then take precedence over the college group and some of the high schools.

The next highest age group were applicants for employment in the Department of Health and Education, the Fire Department and applicants for licenses as Guides. Their average age was 28 years. Over 12,000 were examined with the result that significant pulmonary tuberculosis among applicants for the Fire Department were lowest at 0.8 per cent, Department of Health highest at 1.1 per cent, and Teachers and Guides at 1.0 per cent. Routine examination of these groups are impor-

tant as a public health measure and, as well, as an ultimate protection to the budget and pension system.

The majority of our surveys have been among persons on home relief. In one such study in Harlem, where 65,459 persons were examined, 1919 or 2.9 per cent were diagnosed as significant pulmonary tuberculosis. Their average age was 35.7 years and about two-thirds were colored. It is of interest to note that in our surveys among the white and colored, above 25 years of age, the prevalence of disease among the whites was usually twice that among the colored, whereas, below that age the reverse was true.

The highest prevalence of disease was found in our surveys among inmates of the lodging houses and Rikers Island Penitentiary, where 5.3 in the former and 4.5 in the latter revealed significant pulmonary tuberculosis. Subsequent surveys in the lodging houses have shown a decline of 1.5 per cent in a period of about two years. This is not surprising when it is realized that about 300 of these men were hospitalized in 1939.

Another field of major activity has been the industrial worker. In 1939, there were 33,303 examinations made of members in nine different unions in the city. Only 243 or 0.7 per cent were classified as significant pulmonary tuberculosis. These findings indicate again the difference to be expected between the employed and unemployed, and the Jew as compared to the non Jew. It is a field that should be developed more intensively and one in which the union should assume the major responsibility for the program on a periodic basis. There is some evidence available that indicates a real interest is developing in this regard among union leaders.

The surveys in New York City have been made possible through WPA and the use of Federal funds. In the early years, the major part of the program was financed by outside funds, but at present the City of New York is responsible for the entire program excepting the clerical and statistical personnel.

The Department of Health has had the hearty co-operation of organized medicine in this work. Generally speaking, our work has been among the low income group who could not have purchased such service, and at all events, en masse, which is so essential to an

evaluation of the problem as a whole. It is known that as a result of these surveys, there have been hundreds of cases referred to the private physician that would not have gone otherwise, or at least not until symptoms had developed.

The comment is frequently made that a program similar to ours is impossible in other communities because it would be impossible to organize the adult population. We did not know that it could be done until an attempt had been made, and from the success that has followed our efforts, there is no reason to believe that the same type of program, perhaps more successful, could not be developed elsewhere if an effort were made.

Many surveys, as conducted at present, are of a vertical character, that is to say, a single survey with no later reexamination of the same group. There is every reason to believe that surveys should be repeated at periodic intervals if all tuberculosis is to be discovered in the early stage. The determination of the interval for reexamination will depend upon the population under consideration. The greater the prevalence of the disease, the more important it will be to examine annually. In the general population, there would seem to be no reason why all adults on relief, and, as well, other unemployed or low income populations, should not be x-rayed annually.

The records of all such examinations should be kept on file, for cases apparently negative today may become positive within a few months or years. It is conceivable that if a thoroughgoing program of this type were set up among the more susceptible groups of the population, that great strides could be made in our control program.

The institution of the mass survey program should not be contingent upon the availability of hospital beds. Experience is teaching that many of these early infiltrates can be brought to stability if a restricted regime is set up at home. The chances of regression are apparently better in those above 25 years than in those under that age. In our experience, it has not been too difficult to sell the idea of hospital care, when indicated, to these cases, but it has not been so easy to convince the average practitioner, and occasionally the specialist, of their importance. Frankly, we do not know the ultimate prognosis in many

of these cases on the basis of a single radiograph, and, therefore, the only safe method has been to keep the patient under supervision for periodic radiographs over a period of months.

In conclusion then, case finding, as visualized today, should warrant greater interest and a larger expenditure of funds in comparison to the total tuberculosis budget than has been the practice in the past. It will never

be possible to reduce the percentage of advanced lesions entering our hospitals unless we take more aggressive steps to find the early lesion.

Existing data on mortality and morbidity clearly indicates the importance of selected adults of the apparently healthy population as being the most productive in new significant cases, in the conduct of mass surveys.

125 Worth Street.

Discussion

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It is a great privilege to anyone interested in tuberculosis eradication to have the opportunity of publicly lauding not only Doctor Edwards' concepts of case-finding, but also that which is far more important, the operation of the case-finding crusade by the Department of Health of New York City under his leadership.

It is of first importance that, in communities where little or no tuberculosis surveys have been made, the highest infected groups be concentrated upon first. We know of communities where appropriating bodies were induced to appropriate what was for them large sums of public money to tuberculosis case-finding. Due to the fact that the wrong age and social groups were surveyed, not a single case requiring treatment was found. The result was that in those communities, no more public funds were forthcoming for needed tuberculosis surveys.

The labor unions' trend toward interest in promoting tuberculosis surveys of their members deserves our utmost encouragement. Such activity on their part gives them favorable publicity, a factor in which they are all very much interested and also tends to protect

them from having the surveys conducted by the employers, to which the unions object.

Difference of opinion among doctors as to what constitutes a tuberculosis hazard from the employers' standpoint with consequent apparent working of a hardship or injustice on the candidate for or holder of a job, is the basis of the unions' objection to employer surveys.

It is very encouraging to see some communities spending a very considerable part of their tuberculosis charity funds on surveys of the heavily infected part of their population. Widest possible favorable publicity should be given the work of the organizations so directing their spending. *Diseases of the Chest* will be glad of the opportunity to help in this regard and will appreciate receiving detailed information concerning surveys so that due credit may be given.

Doctor Edwards has guided the pathfinding work so well that it will now be easy for all agencies who are sincerely devoted to tuberculosis eradication to direct their energy and available funds wisely, according to his magnificent example.

1930 Chestnut Street.

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Hemoptysis Associated with Epileptiform Attacks

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Introduction

The more common causes of pulmonary hemorrhage are well defined. In some individuals with hemoptysis, however, the reason for the bleeding is difficult to ascertain. Tuberculosis of some part of the respiratory tract is so far the most common cause, that expectoration of any considerable quantity of blood must be considered to be due to this infection unless and until it can be proven otherwise. Cardiac disease, bronchiectasis and tumors of the bronchi or lung are probably next in frequency as causes of hemoptysis. Holmes⁶ quotes Cabot as stating that the most frequent cause of blood spitting at the Massachusetts General Hospital is cardiac disease. Of such disorders, mitral stenosis is the most likely to cause pulmonary hemorrhage, and in this condition such an occurrence is not infrequent. Wood¹² quotes the figures of Vinson of the Mayo Clinic who found that hemoptysis occurs in 18 per cent of all cases of mitral stenosis, in 29 per cent of pulmonary tuberculosis, and in 49 per cent of bronchiectasis. Diseases of the pulmonary arteries and hypertension of the lesser circulation as causes of hemoptysis have not been given the consideration they probably deserve. Congenital anomalies as causes of pulmonary bleeding should not be overlooked. Goodpastor⁵ has reported a case of fatal hemorrhage from a persistent right dorsal aorta terminating in the lower lobe of the right lung. Marcy⁷ has emphasized the danger of minimizing the importance of hemoptysis in the absence of objective signs.

Among the more unusual causes of bleeding from the respiratory tract are blood dyscrasias, infections with various parasites, notably *Paragonimus Westermanii*, and varices of the trachea. Simon¹⁰ has reported a rare case of massive hemoptysis caused by a hemangio-endothelioma of the thyroid gland, with extension into the trachea. There are also the

so-called "idiopathic" types of hemoptysis, which are sometimes referred to as pulmonary, bronchial, tracheal or pharyngeal *epistaxis*. Cordier¹ found 58 cases in performing 1800 bronchoscopic examinations in which there was tracheal bleeding with no apparent explanation. No cases were included in which there were tracheal varices, specific infection, neoplasm or broncho-spirochetal disease (Castellani, 1920), nor was there any evidence of tuberculosis, bronchiectasis, mitral disease or blood dyscrasias.

It has been postulated that neurological disturbances may sometimes cause hemoptysis. Watkins¹¹ in 1938 described a case of pulmonary bleeding following trauma to the neck and associated with a transient Horner's syndrome in a 70 year old woman. He assumed that damage to the cord in the lower cervical region caused arterial erosion in the lung due to vagus stimulation. He referred to a similar case reported by Jellinek of Vienna in which there was observed a Horner's syndrome, ulnar paralysis, and hemoptysis after a severe electrical shock with 4,000 volts. Hemoptysis as a manifestation of vicarious menstruation has been described. Durand² recently reported several cases of pulmonary bleeding occurring in association with the menses. Puccioni⁹ refers to two cases of menstrual hemoptysis, not caused by tuberculosis of the respiratory tract, in which there were polypi or varicose veins of the larynx. Gjuric⁴ has observed menstrual bleeding from the lung in a woman with paroxysmal tachycardia and bronchiectasis, which appeared to be caused by ovarian insufficiency. No reports can be found of periodic hemoptysis associated with epileptiform attacks. The following is a report of such a case with remarkable improvement following the removal of that part of the lung from which the bleeding occurred.

Case Report

V. C., Johns Hopkins Hospital Number 140807, a 54 year old white woman, single, entered the hospital in April, 1938, complain-

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ing of periodic hemoptysis associated with epileptiform seizures with which she had been suffering since March, 1937. Her mother died suddenly of what was said to be acute pulmonary tuberculosis. No serious illnesses occurred during childhood, but she had been subject to headaches of migraine type during menses since menarche, her periods beginning at age of 14. At 28 years she underwent an uneventful appendectomy. She was quite well until 17 years later. At the age of 45, she commenced having vague abdominal pains, mostly in the right lower quadrant. Her periods remained normal, with no intermenstrual bleeding. The pains became more frequent, and she underwent an exploratory laparotomy. Dense adhesions were found around the cecum and terminal ileum. The gall bladder was thick-walled, but there were no adhesions or stones, and it seemed to empty normally. Several subserous and interstitial fibroids were noted, and a total hysterectomy was done. Both tubes and ovaries were normal and were left in place. For the next two years she was quite well, and she had no symptoms which might have been attributed to menopause. In 1931 she began to suffer with extreme nervousness, accentuation of headaches, and began to lose weight. Although basal metabolic studies showed no consistent abnormality, she was told she had a toxic thyroid. There was no thyroid enlargement. She recalled having had a small goiter at the age of 18, which disappeared uneventfully. A subtotal thyroidectomy was done in Richmond, Virginia. She was then given 5 grains of thyroid extract daily. She felt somewhat improved and was able to carry on her work as a stenographer, continuing her thyroid extract, until 1937.

Following an attack in March, 1937, of what was called influenza, she was suddenly seized one night with a convulsion, which was tonic and clonic, but was not accompanied by biting of the tongue or loss of sphincter control. This was followed by stupor lasting several hours. The next day she felt dazed, but went about her work, and was apparently well until 8 months later. She then had another nocturnal convulsion during which she raised a large quantity of blood, which she appeared to cough up. She lost consciousness, but those attending her related that she raised about

a liter of bright red blood. This entire episode was repeated each month until she came to the Johns Hopkins Hospital in May, 1938. The convulsions were always at night, were never preceded by a definite aura, and were invariably accompanied by hemoptysis varying in amount from a cupfull to a liter. At times, it seemed to her that the blood appeared just before the convulsion.

Physical examination revealed a well developed and nourished but rather pale white woman of about 50 years, alert and cooperative, with anxious demeanor, but in no discomfort. She was slightly above average weight for height and age. There was slight pallor of the mucous membranes. A long, thin, necklace thyroidectomy scar was noted. The trachea was in the midline, the thorax was well-formed, symmetrical, with normal resonance and vesicular breath sounds throughout. There were no changes noted in whispered or spoken voice transmission, there were no rales, and bases descended equally and well. The heart was not remarkable, the pulses equal, regular and synchronous, and the peripheral vessel walls were soft. The blood pressure was systolic, 130 and diastolic, 82. The abdomen was perfectly normal, with a small McBurney scar and a well-healed laparotomy scar extending from the symphysis to the umbilicus. The neurological examination revealed no abnormalities, and the remainder of the examination was entirely negative.

Laboratory studies revealed a slight anemia of the hypochromic, microcytic type, with normal leucocytes, platelets, bleeding and clotting times, and serum Calcium and Phosphorus. The blood non-protein nitrogen was 26 mgm. per cent, blood sugar 90 mgm. per cent, and the Wassermann reaction was negative. The urine showed no abnormality and the routine tests for renal function showed no impairment. Urinary Prolan determination showed a normal amount for an individual past the menopause and this was taken to indicate a cessation of ovulation. While cysts of *Endameba Histolytica* were found in the stools, this was not related to her complaint. She was considered a carrier and after a short course of Carbarsone (Lilly) her stools were entirely negative. A lumbar puncture was negative, and routine studies of

the spinal fluid revealed no abnormality. Repeated studies of her scant sputum, and of the blood which she raised once while under observation, revealed no acid-fast organisms by smears, concentration, culture and guinea pig inoculation.

Repeated bronchoscopic examinations and lipiodol studies of all the lobes of the lungs revealed no abnormalities. She was then bronchoscoped immediately following hemoptysis, and blood was seen to ooze from the right lower lobe bronchus and from no other part of the lung or upper respiratory tract.

A review of all her x-ray films in the light of this finding was made, and it was thought that the right cardiophrenic angle was not distinctly normal, and the amount of fibrosis extending from the right lower root was the upper limit of normal (see figure I).

On May 27, 1938, artificial pneumothorax was induced on the right. The lung collapsed evenly, and no abnormality was noted (see figure II). A week later, the right lower lobe was removed by Dr. William F. Rienhoff, Jr., and convalescence was entirely uneventful (see figures III and IV). The patient was able to return home and to her work six weeks after the operation, and has been well since. She has had no convulsions or attacks of hemoptysis, no headaches, and states that she feels better than she ever felt in her life.

The pathological examination of the removed lobe showed only an organizing hemorrhagic pleurisy, old hemorrhage in the lung tissue, and atelectasis.

Comment

The decision to perform the lobectomy was reached only upon the patient's insistence that something be done for her. The uncertainty of a favorable result was made clear. She preferred any procedure that held some promise of relief, to the prolonged and incapacitating blood loss which she had suffered.

The mortality in lobectomy is astonishingly low, in the experience of Rienhoff, Alexander, Churchill and others. More radical procedures for control of severe hemorrhage include ligation of the pulmonary artery on the affected side. Eloesser³ has called attention to pulmonary hemorrhage originating in the bronchial circulation. He points out that the

bronchial circulation may either directly or by way of anastomoses with the pulmonary circulation contribute considerably to erosive hemorrhage in ulcerative cavernous phthisis. Ligation of all of the structures of the hilum of a lobe, including the bronchial and pulmonary vessels, but not occluding the bronchus, is technically feasible and will stop hemorrhage without causing necrosis of the lobe.

Summary

Some of the causes of pulmonary bleeding have been considered. Attention has been called to references in the literature to some of the more uncommon causes of hemoptysis, and a case has been reported of periodic bleeding from the respiratory tract associated with nocturnal convulsions, which was greatly benefited by removal of that part of the lung from which the bleeding occurred. The bleeding was probably on a functional basis since no cause could be found on pathological examination of that part of the lung removed. The patient continues to enjoy good health and has had no recurrence of the disorder two years after the operation.

Note: Permission of Dr. William Rienhoff, Jr., of the Department of Surgery of The Johns Hopkins Hospital to use the Surgical notes on this case is appreciated.

Norfolk Naval Hospital.

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HEMOPTYSIS ASSOCIATED WITH EPILEPTIFORM ATTACKS

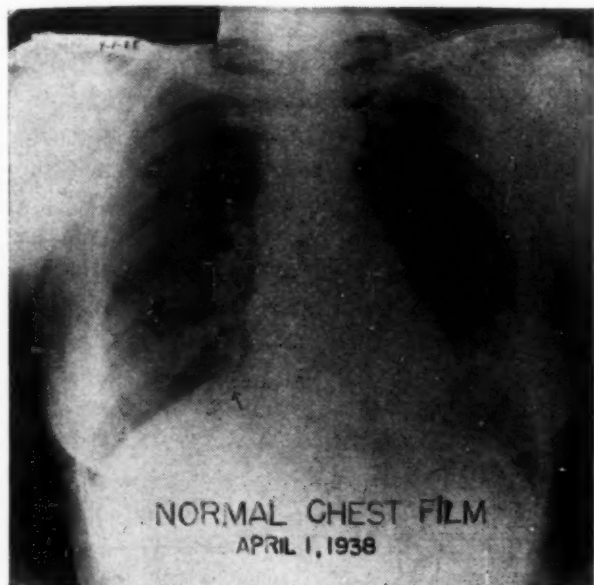


FIGURE I

An x-ray film of V. C., a 54 year old white woman, complaining of periodic hemoptysis associated with nocturnal convulsions. The film was made April 1, 1938, one year after onset of the disease, and was considered to be within normal limits for age.

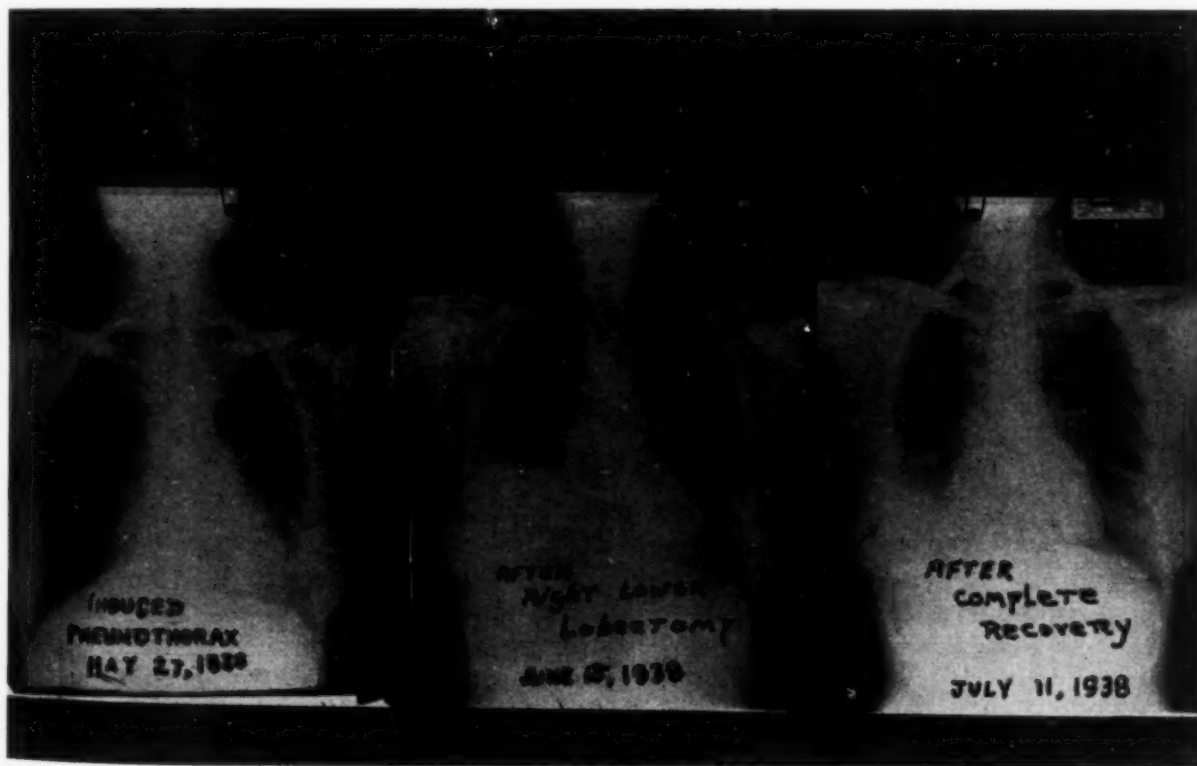


FIGURE II

X-ray film made on May 27, 1938, several days after initiation of artificial pneumothorax on right. No other abnormalities are noted.

FIGURE III

X-ray film of June 15, 1938, taken one week after removal of the right lower lobe. The lung appears to be 50 per cent collapsed with fluid level at third right interspace.

FIGURE IV

X-ray film made on July 11, 1938, one month after right lower lobectomy, and showing reexpansion of right lung and absorption of fluid. There is some thickening of pleura at right base and blunting of the right cost-phrenic angle.

Address of President Southern Tuberculosis Conference*

PAUL A. TURNER, M.D., F.A.C.C.P.**
Louisville, Kentucky

A few years ago, in the city of Memphis, a resolution was introduced at a meeting of this Conference which has given impetus to what I thoroughly believe is the most essential plan in the development of a complete program for the treatment and prevention of tuberculosis.

This plan was to find some feasible way whereby adequate hospitalization could be provided for tuberculous individuals.

Through the untiring and persistent efforts of Miss Erle Chambers of Arkansas, the chairman of our committee, bills have been introduced in the Congress, any of which when passed will give Federal aid to communities where hospitalization is needed for patients with tuberculosis. The National Tuberculosis Association is now sponsoring these bills. Passage of one of them was assured at the present Congress, but the preparedness program necessarily took precedence over all else. I understood also, that the United States Public Health Service under Dr. Parran's direction was to have stressed the tuberculosis program this coming year with the same effort that has been given in the past few years to the prevention and treatment of venereal disease.

But all of these plans must now be postponed until we raise an army, manufacture all the necessary machinery of mechanized warfare in adequate amounts, and until we attain national security by thorough preparedness.

In the situation that confronts us, then, it is of the utmost importance for us to increase our efforts in every phase of the tuberculosis program so that the army will receive as few men as possible who have early tuberculosis and so that our industrial workers and our farmers and our laborers and all of our people in all walks of life can give their best efforts to our country without being handicapped by tuberculosis. We, as tuberculosis workers, are challenged now more than

ever before to control tuberculosis.

Remember, the epidemic of tuberculosis is still the worst of any of the epidemics. It doesn't disappear with the advent of cold weather as infantile paralysis seems to do. It is with us every season, always, and it kills more of our young people than any other disease. One out of every three young women who die between the ages of twenty and thirty, still die from tuberculosis. So we still plead and plead more fervently for hospital beds for the tuberculous in locations where there are not enough of them.

Just why should I stress the need of hospital beds? Please note, that I say *Hospital* beds and not *Sanatorium* beds. The answer is this: It is a phase of our tuberculosis program that until recently has not received sufficient thought, nor until two years ago, has it received effective backing. There are two reasons for this situation. First, the National Tuberculosis Association has as its prime purpose the universal education of our people in regard to all phases of the disease and could not be concerned with the actual treatment of those ill with tuberculosis. Secondly, many health authorities, until a short time ago, failed to realize that the treatment of tuberculosis is probably the most essential factor which can be utilized in the control of this contagious disease. The term "treatment" did not seem to them to be associated in any way with preventive medicine. True, the educational campaign of the National Association, the case finding program, the early diagnosis campaign, the laboratory and the x-ray work and the other activities of this great organization have been of untold worth. The efforts of the health officers and public health nurses have been of exceeding value in preventive work. Nevertheless, we can't be very happy as to the results, since tuberculosis still kills more individuals in early adult age than any other disease.

A few months ago, in a press interview, I stated in effect that tuberculosis could be controlled if all of our knowledge and all of

* October 21, 1940, Monroe, Louisiana.

**Chairman, Committee for the Advancement of Tuberculosis Organization in Medicine of the American College of Chest Physicians.

our armamentarium could be co-ordinated to that end. Unfortunately, the platform upon which that program rests is weak in several of its supports. The chief one is the lack of adequate hospitalization.

How many times, after a case-finding program, have individuals been discovered with tuberculosis only to eventually die because proper care has been impossible? Listen to the distressing tales of health officers, public health nurses and social workers throughout this entire South.

It is not only the death of the individual which is embarrassing to us, but even more, the ten other persons the individual may infect with the disease and who are potential candidates to follow the same route.

It is quite necessary, therefore, to provide proper hospitalization for these patients, or our platform with a weak supporting prop falls to the ground. You will note that I have used the words "hospital beds" and "hospitalization" and have not referred to sanatoria or sanatorium beds. The word "hospital" and the word "sanatorium" connote different forms of treatment. In a hospital, all forms of medical and surgical treatment are expected to be available. In a sanatorium, rest is the predominant method of treating patients. In a sanatorium, the patient *waits* for nature to function. In the tuberculosis hospital, the surgeon *helps* nature to function.

Today, the modern method of treating the tuberculous individual is from 70 to 80 per cent surgical. Hospitals are, therefore, required which have effectively equipped operating rooms and treatment rooms and which also incorporate all the essential appointments of modern sanatoria.

The advent of artificial pneumothorax was hailed 15 or 20 years ago as a method of treating tuberculosis which would cure so many cases that there would be almost immediately a distinct fall in the national death rate. Such hasn't been the case. The explanation of this fact is that in many instances the pneumothorax had not completely collapsed the affected parts and the disease eventually spread, so that the patient reverted to his original status, but had his life prolonged for a few years. I venture to say that only a few out of a hundred pneumothorax cases receive a complete collapse of the diseased

lung unless adhesions preventing complete collapse are severed by the operation termed "intrapleural pneumonolysis." It is, of course, true that many cases of pneumothorax are effective even though the lung is not completely collapsed. But now that we have gained in knowledge and experience and our instruments and technique have been improved we can confidently look forward to a definite drop in the death rate provided we can get hospital beds for the patients. No longer does a chest surgeon allow a patient to go along with a false sense of security. If pneumothorax cannot be made effective after it is induced, it is abandoned and some other surgical method is instituted.

But let me emphasize here that no operation cures tuberculosis. Surgery for tuberculosis is not at all comparable to the surgery employed for appendicitis where the diseased part is removed. The tuberculous lung, after collapse, is still a diseased area remaining within the body, even though it is firmly splinted like a broken bone would be treated. Months and months of rest must still be provided for the patient before nature completes the job and effects a cure. If adequate rest may be provided at home after effective pneumothorax has been established, the patient need not stay in the hospital. But from my experience, I believe the pneumothorax case should remain until the sputum is negative and until refill intervals are extended to two weeks. The average stay of such patients in Hazelwood Sanatorium is five months.

In following this procedure, the community is protected, as the patient's disease is no longer contagious, and the patient himself is given every hope of an eventual cure.

Similar ideas I think should be followed after the various surgical operations on the lungs which time does not permit me to discuss. Suffice it to say, I believe without a question of a doubt that a tuberculous individual should be provided with a bed in an institution equipped to give routine sanatorium care and where the necessary operating rooms are provided so that all forms of modern chest surgery may be performed just as soon as operation is indicated. Whatever the formula of bed requirements may be, one or two per death from tuberculosis, or more, I feel that even less than one bed may

be adequate if this bed is a true tuberculosis hospital bed; and with surgery properly available as outlined above, the average stay in hospital should not exceed 120 days against the present average of 279 days.

It is quite true, of course, that other provisions outside the hospital should be made for the few incorrigible cases and for those who have a type of disease so far-advanced that nothing curative can be attempted. Our plea, therefore, is for an adequate number of hospital beds throughout these United States where tuberculous individuals may receive the modern treatment for their disease and so materially aid in the control of this greatest of epidemics.

To the State of Louisiana the Lord has given something that no epidemiologist has as yet been able to discover. You have some unknown something here that combats the tubercle bacillus. No one is able to tell why your death rate from tuberculosis drops more rapidly than that of the State of Maryland for instance—Maryland spends much more money for the treatment and prevention of tuberculosis than you do here. The answer is, of course, the unknown quantity X. This State, therefore, has a wonderful opportunity. It could easily be the first state in the Union to report that tuberculosis is as rare as diphtheria or small pox. Hospital beds will materially help in bringing about this result. Here in Ouachita Parish a wonderful start has been made. You have your sanatorium. Its medical director is a fine physician. You have arranged for expert surgical service. And sponsoring it all is Captain Cooley. In a relatively short time, the death rate of Ouachita Parish should be the envy of us all. And finally, you have the whole-hearted co-operation of your medical profession.

Countless communities throughout the United States are not so fortunate. And how is it possible for them in this time of national emergency to obtain the necessary hospital beds?

A few days ago President Roosevelt gave an address in behalf of the Community Chest Drive. In it he urged that all of us give what we are able for human needs and so help fortify our country. Although the tuberculosis program is not usually included in the Community Chest, there is no greater human need

than is presented by those suffering from tuberculosis. With the active help of the medical profession, it is my hope that sponsors like Captain Cooley may be found presently in many communities to make progress until the Federal government can give us the anticipated aid. With that view in mind I have accepted the chairmanship of "The Committee For the Advancement of Tuberculosis Organization in Medicine" of the American College of Chest Physicians. It is my purpose this coming year to gain the active support of the medical profession in every state of our Union for the procurement of necessary hospital beds for the tuberculous.

In my own state of Kentucky, the State Medical Association recently adopted the report of its powerful Medical Economics Committee, which reads in part as follows: "It is felt that the section of Tuberculosis of the 1939 report of the Committee calls attention to the most pressing need in the field of medical care in Kentucky now. Your Committee believes that there is a real need for additional hospitals for this class of patient.

"The source from which funds should be derived for the construction and maintenance of such hospitals, the number needed, the geographical distribution, how they should be controlled, with other pertinent features are all questions which the Committee is not now in possession of adequate information to justify specific recommendations. These will require time—at least a year—and the Committee desires to indicate its willingness to undertake the task if the suggestion meets with the approval of the House of Delegates."

This Committee is empowered to form sub-committees wherever needed and with its usual effective work I have no doubt that much will be accomplished.

Tuberculosis Committees in organized medicine have already been formed in 20 states, some states having sub-committees in each county. It is through these committees and those in the other states, which I trust will be appointed, that I hope the medical profession of the United States will actively work to help our tuberculosis organizations in obtaining the necessary beds for tuberculous individuals.

Government financial assistance being postponed for the time being, let me say once

more that all of us must redouble our efforts to strengthen the tuberculosis program and so help to increase the fortification of our United States.

And in carrying on this program let us hope

that the plea of the Southern Tuberculosis Conference for an adequate number of hospital beds for the tuberculous will not have been made in vain.

Hazelwood Sanatorium.

Bronchology: Its Clinical Application*

PAUL BAILEY, M.D.**
Portland, Oregon

Only two per cent of endoscopies are performed for foreign body removal, and ninety-eight per cent of the patients that come to the amphitheatre, are seeking endoscopic aid in diagnosis or treatment. The modern chest physician is neither amazed nor surprised at these figures, because it is he who is largely responsible for the ninety-eight per cent. He is generally present in the fluoroscopic room where he can see through his patient, and he often dons mask and gown to be present in the bronchologic surgery where he and the bronchologist look directly into and examine the trachea and major bronchi. The proven importance of bronchology in diagnosis and therapy has evolved from this type of cooperation. The chest physician is thoroughly familiar with the multitude of ingenious instruments employed in bronchoscopy, of their important diagnostic and therapeutic possibilities, as well as of their limitations.

Perhaps the best of all illustrations that careful endoscopy is not a shocking ordeal can be drawn from the outpatient groups. It would be ideal to hospitalize every patient each and every time bronchoscopy was performed. There are many reasons, mostly all economic, why this is not practicable. As a consequence, many patients are handled as out-patients. At the Bronchologic Clinic of the University of Oregon Medical School more than three-fourths of the patients are in this out-patient class. (This ratio excludes the group of cases at the University of Oregon State Tuberculosis Hospital at Portland). There are no recovery beds, the patients must

ride up the hill on the bus, and must be in such excellent post-operative condition that a few minutes after their endoscopy they are able to ride the bus downtown again. It is the opinion of the clinic staff that this is made possible only by rigid adherence to each and every rule of caution and safety, and to group teamwork and technique as detailed in the writings of Chevalier Jackson, Louis Clerf and Gabriel Tucker.

At the organization of the clinic, this policy was adopted and for over two years now it has been the experience of the clinic staff to realize the wisdom of each and every dictum. It has been found that even the "fussiest" of rules are set-up for a definite good; the patient's comfort, or the successful accomplishment of some surgical maneuver. Repeated critical review of the normal has been found valuable in developing diagnostic acumen, e.g., the novice observer has difficulty in differentiating true inflammation from the congestion due to instrumentation, and it has been found that only constant drill results in a degree of instrumental skill such that full concentration is permitted for study of the pathologic picture at the tube mouth.

Aside from the spectacular field of foreign body removal, the greatest value of the bronchoscope is in diagnosis. Reduced to simple terms, the bronchoscope is nothing more than an illuminated speculum permitting direct inspection of the trachea and major bronchi. An array of instruments are available which may be passed through the bronchoscope in securing diagnostic specimens, cultures, etc. Some of these instruments are constructed so that the tiny peripheral bronchi beyond the visual field may be explored. The great number of possible endo-bronchial diagnoses

* Read before the Sectional Meeting of the American College of Chest Physicians, Portland, Oregon, December 14, 1940.

** From the Department of Otolaryngology, University of Oregon Medical School.

will not be listed, but it is proper to mention benign tumor. As more and more physicians realize the ease with which bronchoscopic exploration may be accomplished, there is a relatively larger percentage of other than "last resort" cases coming to bronchoscopy for diagnostic examinations and, as a consequence, more and more benign tumors are being reported. Clerf writes: "Routine bronchoscopic examinations in obscure disease of the lungs has disproved the belief that benign tumor of the bronchus is rare." Many of these tumors may be completely removed endoscopically.

The advances in thoracic surgery during the past decade have resulted in an increasing number of cured cases of bronchogenic carcinoma, and there is every reason to believe that continued technical advances will be forthcoming in this highly specialized field. Nevertheless, eradication of lung cancer will always be dependent on early diagnosis, and this early diagnosis is best positively made with biopsy obtained at bronchoscopy. Jackson states that "a cancer no larger than a grain of wheat can be found in a bronchus and removed for histologic examination if only the opportunity for bronchoscopy is afforded."

The bronchoscopic speculum exposes the lumina and mucosa of the trachea and larger bronchi and, through this speculum, topical applications of medicants are readily made under direct vision. In addition, electro-surgical tips are available and ingenious planters of radium seeds are provided. Most important of all are the aspirating tips, some of which are devised to reach into peripheal and "around the corner" bronchi. All this opens a rich field for applied therapeutics, and as in every field of medicine, there is universal agreement on some procedures and divergent opinion in a good many others. It is to be remembered that in this field the bronchologist is acting as the ally of the chest physician, and the closer the cooperation the fewer the divergent opinions. The value of aspiration in any accessible acute lung abscess is recognized by all whereas procedures like dilatation of tuberculosis stenoses are moot points. Of this, Kernan, who draws his conclusions from a rich background of experience, states that he has found ordinary methods of dilatation

unsuccessful and now proposes an electro-surgical method.

A surprisingly large group of cases with active tracheo-bronchial tuberculosis have been diagnosed bronchoscopically at the University State Tuberculosis Hospital. Considerable value has been attached by the medical staff to the finding of the source of persistent positive sputum in certain cases, and they have selected a fairly large group of these patients as suitable for bronchoscopic treatment. So far, only lactic acid and silver nitrate have been utilized topically. Plans are in progress for cautious work with the electro coagulating tips. So many factors enter into a consideration of these cases that no report will be attempted for some time.

Despite the gloomy statistics of careful observers, such as Samson, who reports a mortality of over 50 per cent, the staff is proceeding cautiously with some feeling of optimism, particularly in those patients whose parenchymal disease is responding favorably to adequate therapy. In addition to electro-surgery, we hope to acquire a quartz applicator so that selected cases may be given the benefit of endobronchial quartz light treatment. The work at this institution has demonstrated that even in advanced tuberculosis, careful bronchoscopy and cautious treatment can be effected without shock or set back. It is slow, tedious work, and in direct contrast to the almost instantaneous spectacular cure of a massive post-operative collapse. The first might be likened to a vegetable plate dinner, whereas the latter would be a delicious dessert, the reward for downing the green food. The week in and week out aspirations which give temporary, but welcome relief to the miserable bronchiectatics, and attendance on the tuberculous patients has its reward in the necessity of developing a gentle touch as well as a team which is capable of confidently approaching and skillfully aspirating the mucus plug from a desperately ill post-operative patient. Although more difficult, this may even be done in the hospital bed if the patient is too ill to withstand the move to a surgery.

In conclusion, it is emphasized that this review could not mention or discuss many fascinating therapeutic suggestions which skilled bronchologists are testing and reporting. It is further emphasized that no con-

sideration of foreign body problems has been presented, but it is proper to state that in diagnostic and therapeutic cases, unsuspected foreign bodies are encountered with sufficient frequency to justify their exclusion in every case of obscure thoracic disease. Responsibility for the solution of a foreign body problem rests with the bronchologist.

Miserable and alone is the bronchologist after an ineffectual attempt, and so, after a successful extraction in a difficult case, he

is to be pardoned an inward glow of triumph. He will not be led astray by this and conclude that he is also master of all chest diseases. He well realizes that in the field of therapy, he is only a member of a modern surgical and medical team headed by the chest physician, and that the bronchoscope is but one of many tools which are available to this team in the successful combat of thoracic disease.

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Mantoux vs. Patch Test

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A small series of 100 tests were performed to compare the relative value of tuberculin patch tests with the intradermal test. Previous to this small group, the author performed approximately four hundred similar comparisons which were not published. In the earlier unpublished series, because of possible slight errors in technique and failure of strict check-up of patients, it was felt that the results would not be a fair estimate of the relative value of the intradermal test with the tuberculin patch test.

One hundred such patch tests were obtained from the manufacturing concern.* Eighty per cent were used on patients examined personally in the Out-Patient Department of the Tuberculosis League Hospital, Pittsburgh, Pa., and the remaining 20 per cent were used on student nurses at the Passavant Hospital, Pittsburgh, Pa. Tests were used only on those patients on whom it was felt suitable instructions would be followed out and on those patients who would return for observation as advised.

The prescribed technique of properly cleansing the forearm with Acetone and the proper application of the patch test, with careful instructions to the patient, or adult if the test was performed on a child, was given. The patient was informed to prevent undue moisture or wetting of the patch, and was also given instructions to keep the patch closely

approximated. On the opposite arm, O.T. was given intracutaneously—the first test in doses of .01 mg. and, in the older patients, a first dose of .025 mg. When negative, second doses of 1 mg. were given. The patient was instructed to remove the patch after forty-eight hours and in some cases these patches were removed personally. Readings were made on or after the prescribed ninety-six hour period.

No effort was made to choose any particular patient or patients for these tests. However: (1) Patients showing definite physical signs of pulmonary tuberculosis were not so tested. (2) No choice was made between contacts and non-contacts; color or race. (3) Only those patients were tested who promised to return for check-up as prescribed.

The following figures show the result of this study: In the first group are recorded 22 nurses from the Passavant Hospital. These nurses all gave a negative history of contact in their respective families, however, because of their occupation as nurses we may consider them to be contacts. In this group 4 of the nurses reacted positively to first dose of O.T. and 12 additional nurses were positive to the 2nd dose, 16 nurses in all reacted positively to the intradermal test. To the patch tests there were only 7 positive reactors and 1 which was questionable—a total of eight.

In the second group are 78 patients, including whites, blacks and one chinese patient. The youngest patient in this group was 1½ years of age, the oldest patient 49. Forty-

* Acknowledgement and thanks to the Lederle Laboratories who supplied the material used in this survey.

one of these 78 patients presented a definite history of contact, in the others the history was negative. Thirty-two of this group of 78 were positive to the first intradermal test, 15 others were positive only to the higher concentration. A total of 47 positive reactors resulted. Thirty-four patients reacted positively to the patch test and one patient showed a questionable positive—a total of 35 positive reactors.

In all there were 100 individuals, this including patients and nurses, so tested. Sixty-three of them were positive to the Mantoux and only 41 of the same individuals were positive to the Patch Test. It is interesting to note that in this small series there were none positive to the Patch Test, who were not also positive to the Mantoux. The per cent of positive reactors in this series is exceptionally high, as one would expect in such individuals: (1) Among nurses a high incidence of infection is always anticipated. (2) Patients who present themselves to this dispensary are contacts or patients with suspicious symptoms. We must not assume that this relative high incidence, as found in this series, in any way simulates the incidence of positive reactors in a group of patients at large, or in a group of patients that would be tested in a general dispensary.

Although in this short paper, I have stressed the discrepancies between the Vollmer Patch Test and the Mantoux Test, one must not feel that the Patch Test should be discarded in our crusade against Tuberculosis. Notwithstanding the fact that improvement in material may be accomplished so that in the future this Patch Test will measure up in accuracy to the Mantoux Test, there are other reasons for which this test may be employed.

1—Because the Patch Test is so simple and easy to apply, it lends itself very readily to office work. The test can also be performed by the family doctor at home. A supply can always be on hand and thus the physician has a ready test for instant use.

2—Some patients, or parents of patients, may have objections to the use of hypodermic

needles and thus refuse the Tuberculin Test. The Patch Test may be used on these patients then without objection.

3—Most important of all, perhaps, is the fact that the Patch Test may be used as a substitute for the 1st strength Mantoux Test. In this small series of patients, I found that there were 37 patients positive to the 1st strength Mantoux. Most of these, of course, received .01 mg. of O.T., but some, on the other hand, received for their first dose .025 mg. O.T. Thirty-six of the same patients also reacted positively to the Patch Test. This is indeed very striking when we consider that some of the 1st strengths used were more than the usual .01 mg. Keeping this in mind, I believe we may safely conclude that the Vollmer Patch Test certainly can be used as a substitute for the 1st strength Mantoux. If this is borne in mind, perhaps more general practitioners can avail themselves of this material for testing. In negative Patch Tests they should supplement with the higher strength Mantoux. In surveys, then, and in individual tests, the Patch Test can be applied first. If the test is negative, the 2nd strength Mantoux can be followed and without any fear of severe reactions.

Summary and Conclusion

A small group of 100 patients, approximately 80 per cent from the Out-Patient Department, and the remaining 20 per cent from the student nurses, were tuberculin tested in order to compare the relative values of Vollmer Patch and Mantoux Tuberculin Tests.

1—Complete reliance on the Vollmer Patch Test, as a definite indication of tuberculous infection, should not be adhered to.

2—Relative merit of the Mantoux Test and the Vollmer Patch Test in manifest active tuberculosis has not been considered in this study.

3—The Vollmer Patch Test may be of value when there are objections to the use of the hypodermic needle. It lends itself for easy use at home or office.

May Building.

The Differential Diagnosis of Lung Tumors*

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Since a discussion of the differential diagnosis of lung tumors would cover nearly all the diseases of the respiratory tract, the scope of the present contribution must be arbitrarily limited at the outset. It will concern only tumors of the trachea, bronchi, lungs and pleura, with particular reference to the evaluation of the various diagnostic methods now available and their application to the differentiation of tumors of the lung from other pulmonary diseases.

Lobectomy and pneumonectomy are now practical surgical procedures, and their development has stimulated interest in methods of differential diagnosis of lung tumors. This interest is entirely logical when it is recollected that any degree of success in either so-called conservative radiotherapy or radical surgical removal necessitates not only proper diagnosis, but diagnosis early enough in the disease for the therapy to be of some value.

Classification

Tumors of the Trachea and Bronchi

Benign: papilloma and adenoma; fibroma (fibrous polyp); lipoma; endochondroma and chondroosteoma; intratracheal stroma; gumma; tuberculoma; lymphoma; amyloid tumor.

Malignant: carcinoma; sarcoma.

Tumors of the Lung

Benign: Lung cysts, congenital (cystic anomalies, honeycomb lung, lymph cysts, dermoid and teratoma); lung cysts, acquired (echinococcus, bronchiectatic); mycosis (actinomycosis, streptotrichosis, sporotrichosis, blastomycosis, coccidioid granuloma, moniliasis, torula); gumma; tuberculoma; pyogenic lung abscess.

Malignant: primary (carcinoma, sarcoma, endothelioma); metastatic neoplasia.

Diagnostic Procedures

The diagnostic procedures available in lung

tumors include:

- 1 The clinical history.
- 2 Physical examination.
- 3 Sputum examination.
- 4 Fluoroscopy.
- 5 Roentgenography.
- 6 Bronchography.
- 7 Bronchoscopy.
- 8 Biopsy (bronchoscopy and needle puncture).
- 9 Diagnostic pneumothorax.
- 10 Pleural fluid examination.
- 11 Thoracoscopy.
- 12 Exploratory thoracotomy.

Cancer of the lung, actually or apparently, has increased to the point at which it now represents 10 per cent of all malignant tumors. This increase has so augmented its importance that a discussion of the differential diagnosis of lung tumors may be based chiefly upon this condition, which can be used as a basis for evaluating the various diagnostic procedures used in all pulmonary neoplasia.

In a series of 195 cases of primary carcinoma of the lung previously reported from Charity Hospital of Louisiana at New Orleans,¹ only those cases were included in which the clinical diagnosis was confirmed by roentgenologic examination, bronchoscopic examination, necropsy, or all three methods. During the period covered by the survey (January 1, 1918, to July 1, 1938) the general hospital admissions of patients over 12 years of age numbered 576,810. The white incidence was more than twice the negro incidence and the male incidence more than seven times the female incidence. Even more striking than these disproportions, however, was the yearly distribution, which showed an incidence of only nine cases in the first 10 years of the study against an incidence of 186 cases during the last 10½ years. Whether the increase in the incidence is real or merely apparent, its significance for the physician is too obvious to need discussion.

History

In the majority of cases of lung tumor the mode of onset is so insidious that whatever

* From the Departments of Medicine of the School of Medicine and the Graduate School of Medicine of Louisiana State University and Charity Hospital of Louisiana at New Orleans.

symptoms are manifest are regarded as due to such common conditions as chronic bronchitis or asthmatic bronchitis, and very little attention is paid to them. It is possible, however, to group the symptomatology into a general scheme and, as a rule, the patients who present themselves for diagnosis may be divided into the following groups:

1. Patients who seek advice because of hemoptysis of some degree, which is usually considered tuberculous. In the series of lung cancers already reported, hemoptysis was present in 57.4 per cent of the cases, and was even more frequent than persistent expectoration, which appeared in only 34.3 per cent.

2. Patients who present themselves with evidences of manifest pleural effusion. Thirty-four of the 195 patients with cancer of the lung presented signs of this condition when they were first seen. Carcinomatous cells could be demonstrated in the bloody aspirated fluid in only three instances, and in aspirated straw-colored fluid in only one instance.

3. Patients who present themselves with a history of what they term "asthma," which has begun in the fifth or sixth decade of life. Of the 195 patients with cancer of the lung, 38.9 per cent complained of dyspnea.

4. Patients who present themselves because of the persistence of what seems to be an acute upper respiratory infection far beyond the usual duration.

5. Patients who present themselves with persistent localized chest pain coincident with cough and expectoration, with or without hemoptysis. From the series studied, chest pain and cough would appear to be the chief symptoms of lung cancer, being present respectively in 70.4 and 70.3 per cent of all cases.

6. Patients who present themselves with evidence of peripheral tumors, which in reality are metastases from a local lung lesion.

7. Patients who present themselves without respiratory symptoms, but in whom evidences of a local lung lesion, *per se*, can be demonstrated.

Because the clinical manifestations of lung tumors are protean, it may well be said that any individual who presents himself with a history of one or more of the symptoms and signs listed should have a provisional diagnosis of lung tumor and should be subjected to the diagnostic procedures necessary to

prove or disprove the diagnosis, particularly a patient with persistent respiratory symptoms beginning in the fourth or fifth decade of life.

Physical Examination

Physical findings in early lung tumors are notoriously conspicuous by their absence. In fact, the signs usually attributed to the disease are actually not due to the tumor itself, but to its effects. For example, a tumor may cause a bronchial obstruction, which in turn gives rise to atelectasis. Early in the disease, instead of signs of consolidation such as increased breath sounds and bronchial breathing, which might be expected in the presence of tumors, signs of atelectasis are found, such as diminished or absent breath sounds. Other physical signs, such as pleural exudates or transudates, abscess, bronchiectasis, and so-called unresolved pneumonia or insidious pneumofibrosis, are also the result of the malignant process and not signs of the disease itself.

The presence of fever and night-sweats depends upon the presence of coexistent infection rather than upon the tumor itself. The absence of fever is of diagnostic significance whenever a lung lesion is suspected. Hoarseness, dysphagia, aphonia, weakness, such evidences of circulatory disturbance as clubbed fingers, and metastases to the brain, bones and other sites, may all be part of the picture, but are of relatively little diagnostic value at the period in which therapy would be of the greatest benefit.

Signs of bronchial obstruction obviously may be produced by a tumor originating in the bronchus or in the peribronchial lung tissue, or by a mediastinal tumor originating from the blood vessels or lymph nodes. Indeed, the differentiation between lung tumors *per se* and mediastinal tumors involving the lung and bronchi will often tax the diagnostic acumen of the most experienced clinician. Little more need be said in this regard than that the physical findings associated with lung tumors merely suggest their presence and that further diagnostic procedures are necessary for confirmation.

Sputum Examination

It is impossible to overemphasize the im-

portance of a properly made sputum examination, which is of particular value in the differentiation of tuberculosis. Tuberculosis, it is generally agreed, is not ruled out by the results of a single negative sputum examination. The disease is so universal in its incidence and so variable in its clinical manifestations that repeated examinations, on as many as 15 successive specimens from a case of lung tumor, must be made before the results can be seriously considered as ruling it out.

The type and character of the sputum will often throw light on the diagnosis of a non-tuberculous lesion. By this means, the various fungous infections of the lung can be differentiated from each other, as well as demonstrated, and cancer cells can occasionally be demonstrated. Care must be taken that the fungi are found in sufficient numbers, and also are confirmed by culture, to obviate the confusion which may be caused by the finding of an occasional non-pathogenic organism such as is sometimes found in the sputum in other respiratory diseases.

Fluoroscopy

Fluoroscopy is very valuable in the diagnosis of lung tumors. It permits views of the interior thorax in many positions which would otherwise require the taking of numerous roentgenograms. Fluoroscopic examinations make it possible to determine whether the lesion can be dissociated from the hilus of the lung, and also make possible observations upon the movement of the tumor, as well as movements of the diaphragm and chest wall in relation to it. The value of this method is best illustrated in the differentiation of mediastinal tumors and particularly of aneurysm of the aorta or the innominate artery.

Roentgenography

Although roentgenography is the most practical and the most widely used of the various diagnostic procedures employed in neoplasms of the lung, it must be used with the proper precautions. The appearance of the film, it must be remembered, is due not only to the tumor itself, but to its consequences. Compression of the bronchial tree by the neoplasm causes atelectasis, bronchiectasis or pneumonia. The appearance may be due to me-

tastasis, pleural effusion, pleural thickening, abscess of the lung, gangrene, or obstructive emphysema. There may be so much fibrosis, pleural thickening and distortion of the mediastinum, as the result of the neoplastic growth, that the picture presents a unilateral opacity suggestive of chronic fibroid phthisis.

Furthermore, useful as it is, roentgenography does not go very far in solving the problem. In our own reported series of carcinoma of the lung, 45 patients had had one or more roentgenologic examinations at some stage of the disease. In 19 cases the diagnosis was made correctly, but the diagnosis in the remaining 26 cases made clear the difficulty of distinguishing between pulmonary malignancy and such other thoracic conditions as aneurysmal dilatation of the arch of the aorta, lung abscess, pneumonia, pleural effusion, infarction, metastatic lung tumors, and primary mediastinal neoplasia. As Holman has pointed out, lung abscess and other acute inflammatory processes may so closely simulate carcinoma of the lung that absolute clinical differentiation by this method alone is often impossible.

Bronchography

Roentgenographic visualization of the bronchial tree by the injection of iodized oil is frequently an important aid in the diagnosis of lung tumors. By this method, the presence of either partial or complete obstruction of the bronchial lumen, or dilatation thereof, can be clearly demonstrated.

Bronchoscopy

Bronchoscopy is a most effective method of directly visualizing bronchial tumors, especially those in the first and second divisions of the lower bronchi. In addition, it greatly facilitates biopsy of the tumor. The importance of this method is obvious from the fact that some 50 per cent of all lung cancers occur in the trachea and bronchi. As Overholt, Jackson, Konzelmann, Taquino and others have repeatedly pointed out, this method offers the most direct means of diagnosis available. On the other hand, its success depends largely upon the technical ability of the individual operator, though the technique is well established and is now almost universally available. Bronchoscopy was

employed in 27 of the 195 cases of lung cancer previously referred to, in six of which the tentative diagnosis of primary carcinoma of the lung was confirmed by biopsy.

The contraindications to the method are clearly established. They include organic cardiovascular disease with hypertension, aortic aneurysm, recent pulmonary hemorrhage, acute exudative tuberculosis, acute diffuse suppurative pneumonitis, and empyema, all of which should be definitely eliminated before bronchoscopy is attempted.

Biopsy

As has already been pointed out, the location of 50 per cent of lung tumors in the larger bronchi and their main subdivisions renders bronchoscopic biopsy relatively easy and provides a very valuable direct aid to diagnosis. This method, however, may not be successful in cases in which the lesion is superficially located near the chest wall at the apex or base of the lung. In the cases in which the tumor is located at or near the pleural surface, needle puncture biopsy is a practical diagnostic procedure.

For the last year we have employed punch biopsy in superficially located tumors and have repeatedly demonstrated the efficacy by which biopsy material can thus be obtained. The application of the method to tumors situated at or near the pleural surface of the lung suggested itself to us some time previously, and we promptly found it to be a practical diagnostic procedure in the limited group of cases in which it is applicable.

The procedure is carried out with a needle which is manufactured by the McGregor Instrument Company and which operates on the principle of a trocar. The instrument consists of a short, hollow outer needle with a beveled edge, which contains a smaller-bore hollow needle. The inner needle, which is longer than the outer needle, is divided in the center and its cutting edge is beveled in the shape of a V.

The technique consists of little more than the simple insertion of the two needles, one within the other, just as an aspirating needle would be inserted. A small incision is made in the skin under local anesthesia before the needle is inserted, both to facilitate its entrance through the chest wall and to elim-

inate the possibility of including skin in the biopsy specimen, which might lead to an incorrect diagnosis of squamous cell carcinoma. The operator should practice punch biopsy on the liver of the cadaver before attempting to employ it in thoracic neoplasms, so that he may learn to appreciate the "feel" of lung tumor tissue.

Certain precautions are necessary in the use of this method and certain possible dangers must be pointed out. The proper selection of cases is the first principle of both safety and success. Tumors in the trachea, the bronchi, or the primary bronchial subdivisions, which are readily accessible, through a bronchoscope, should not be subjected to puncture through the chest wall. The dangers of such a procedure applied to tumors situated at or near the hilum of the lung are also too obvious to need discussion. In short, punch biopsy is applicable only to tumors situated in the periphery of the lung near the pleural surface, and the site of the puncture should be the point at which the lung tumor is most superficial, this location having been determined by the taking of radiographs in various positions.

Even in carefully selected cases, furthermore, the risk of air embolism, infection of the pleural cavity and spontaneous atelectasis is present, just as it is always present in therapeutic pneumothorax. In addition, the risk of hemorrhage can never be ignored. We have no desire to overemphasize these possible dangers, but it is important to realize that they are always present and that they may be augmented by poor technique in the performance of the puncture.

Aspiration biopsy of the lung tumor is open to the objection that malignant cells may thus be spread to uninvolved lung tissue or to the circulation. Needle punch biopsy in the limited group of properly selected cases is not open to such an objection, for it does not employ aspiration. It consists of a simple cutting and coring process, by which the chances of spread are certainly no greater than would be encountered in obtaining biopsy specimens through the bronchoscope with a cutting instrument.

Diagnostic Pneumothorax

This procedure permits localization of the

tumor, and differentiation of intrapulmonary tumors from tumors of the parietal pleura or chest wall. At the same time, it permits determination of the presence or absence of adhesions, knowledge of which is valuable in the preparation of the case for operation.

Pleural Fluid Examination

The diagnostic value of the presence of pleural effusions is not as significant as might be supposed, although the presence of bloody pleural fluid in a patient in the cancer age is highly suggestive of malignancy of the lung. Effusions are more commonly seen in association with tumors situated near the pleura. Both serous and sanguineous pleural fluids tend to occur rather late in the disease, and examination of the fluid for cancer cells has proven to be of positive value only.

Valuable as thoracoscopy is in the separation of pleural bands and adhesions to facilitate unilateral pneumothorax in tuberculosis, it has a very limited field in neoplasia of the lung. It can be used only in peripherally located tumors, which are rather infrequent but in which it supplies a direct method of visualizing the lung surface and portions of the entire pleural cavity. It cannot be used when the pleural cavity has been obliterated. Biopsy of lung tumors by this method, moreover, is a most formidable procedure and can be employed only in the few cases of malignancy of the visceral or parietal pleura in which the lung cavity remains unobliterated.

Exploratory Thoracotomy

Although exploratory thoracotomy was fraught with considerable danger in past years, at the present time, with our more intimate knowledge of anesthesia and cardio-

respiratory physiology, it is a relatively safe procedure in the hands of an experienced chest surgeon. After the diagnosis of lung tumor has been established, this method not only serves to confirm the diagnosis, but is often of great therapeutic value also. In some cases in which an indefinite non-tuberculous lesion is present in the peripheral lung tissues, only exploratory thoracotomy can furnish evidence of the particular etiologic factor involved. It is a justifiable procedure, however, only after all other diagnostic measures have been exhausted. In addition, a thorough investigation for any evidence of metastasis is absolutely essential before this procedure is resorted to, for obviously it can be of no special therapeutic value after peripheral extension has occurred.

Conclusions

Pulmonary neoplasia, because of the association between early diagnosis, possible therapeutic procedures, and the very high mortality, with or without treatment, is of extreme importance to all medical men. Even the layman has become cancer-conscious. With the cooperation of patient and physician, both the diagnosis and treatment of this condition have improved remarkably in recent years. Until a specific cure is found, advances in diagnosis are directly related to improvement in treatment, and every attempt should be made to recognize lung tumors in their incipency and early stages, at which time therapy may be of value.

Reference

- 1 Tripoli, C. J. and Holland, L. F.: "Carcinoma of the Lung. An Analysis of 195 Cases with a Special Note on Needle Puncture Biopsy," *South. M. J.*, 33, 559, 1940.

NOTICE TO MEMBERS OF THE COLLEGE

If you have not as yet returned your listing for the 1941 Pneumothorax Directory, please do so at once. The forms are now being prepared for the press.

Also, if you have not as yet paid your 1941 dues, please do so promptly.

Thank You,

PAUL H. HOLINGER, M.D., F.A.C.C.P., *Secretary-Treasurer*
American College of Chest Physicians.

Organization News

CUBAN CHAPTER OF THE AMERICAN COLLEGE OF CHEST PHYSICIANS ORGANIZED

"El Pais," daily newspaper of Havana, Cuba, reports the organization of the Cuban Chapter of the American College of Chest Physicians. Dr. Frank Walton Burge, Philadelphia, Chairman of the Board of Regents of the College, was the guest speaker at the ceremonies conducted at the Furbush Dispensary, Havana, Cuba, on December 24, 1940.

Dr. Juan J. Castillo, president of the Cuban Phthisiology Society, presided at the meeting and introduced the speakers. Seated at the speaker's table were: Dr. Antonio Navarrete, Governor of the College for Cuba; Dr. Alfredo Antonetti, Professor of Phthisiology at the University of Habana; Dr. Joaquin Martos, Director of La Esperanza Sanatorium; Dr. Francisco J. Menéndez, Director of the Laennec Dispensary; Dr. Osvaldo Cabrera Macías and Dr. José F. Quinones, Vice-President and Secretary of the Cuban Phthisiology Society.

An interesting scientific program was presented by the following physicians:

"A Case of Mediastinal Hernia in the Course of a Bilateral Pneumothorax," by Dr. Ricardo Sanchez Acosta.

"Subcutaneous Emphysema in Pulmonary Tuberculosis," by Dr. Carlos Varela Figuerá.

"Bronchiectasis and Pulmonary Tuberculosis," by Dr. Antonio Navarrete.

The papers were discussed by the distinguished guests at the meeting.

Fellows and Associates present at the meeting were: Dr. Antonio Navarrete, Dr. Alfredo Antonetti, Dr. Gustavo Aldereguía, Dr. Gustavo Rivero, Dr. J. J. Castillo, Dr. Eduardo Rivero, Dr. Francisco J. Menéndez, Dr. Manuel Ampudia, and Dr. José García Arrazuria.

ADDRESSES

Dr. H. L. Mantz, Kansas City; Dr. James L. Mudd, St. Louis; and Dr. Paul Murphy, of Koch, all Fellows of the College, addressed the annual meeting of the Missouri State Tuberculosis Society, at Columbia, Missouri, on October 24, 1940.

NEW JERSEY STATE CHAPTER MEETING

The New Jersey State Chapter of the American College of Chest Physicians met on January 9, 1941, at 11:00 A. M. at the Robert Treat Hotel, Newark, N. J.

The following members were present: Dr. Collier, Grenloch, presiding; Dr. Gardner, Roanoke; Dr. Applebaum, Newark; Dr. English, Glen Gardner; Dr. Borscher, Bloomfield; Dr. Weintraub, Paterson; Dr. Fine, Newark; Dr. Willner, Newark; Dr. Douglass, Paterson; Dr. Herradora, Jersey City; Dr. Silk, Perth Amboy.

After discussing the question of by-laws, the secretary was instructed to get information from the New York Chapter and then work out a set of by-laws in cooperation with Dr. Fine, which is to be submitted to the chapter for approval.

Dr. English reported progress on the program for the annual meeting.

It was proposed that the New Jersey Chapter join forces with the New York Chapter in carrying out scientific programs in the future, the feeling being that the New Jersey chapter comprises but a small group, too close to the great metropolitan center for such undertaking and that it would create much unnecessary duplication. Upon motion, which was duly carried, the secretary was instructed to make the proposal through the secretary of the New York Chapter for its consideration.

There being no further business, the meeting adjourned until Wednesday, February 4, 1941.

MEETING

Dr. H. I. Spector, Governor of the College for Missouri, called a meeting of St. Louis College members for the purpose of reporting to them the accomplishments of the College at its last annual convention held in New York City.

The meeting, held on Monday evening, December 9, was well attended, and much interest was shown by the members as indicated by the numerous questions asked regarding the future policies and aims of the College.

(Continued from page 38)

Hospital, New Jersey; Philadelphia General Hospital, Philadelphia, and others throughout the United States.

As the name implies, the Fellowship is Anonymous and may be reached at P. O. Box 332, 9th and Chestnut Streets, Philadelphia, or P. O. Box 658, Church Street Annex, New

York City. The Fellowship publishes a booklet entitled "Alcoholics Anonymous" explaining experiences and methods at length. This book may be obtained through the local Fellowship. The Philadelphia group meets each Thursday at St. Luke's and Children's Medical Center at 8 p. m. Anyone interested is requested to contact the Group. F. W. B.



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MEDICAL DIRECTOR

Organization News

STATES ELIGIBLE FOR STATE CHARTERS

The following states, having attained 15 or more members, as of December 31, 1940, are eligible to organize State Chapters and apply to the Board of Regents for a State Charter after such organization is perfected and officers duly elected.

<i>Standing</i>	<i>State</i>	<i>No. of Members</i>
1	*New York	112
2	Pennsylvania	58
3	California	56
4	Ohio	49
**5	*Illinois	39
**6	Texas	39
7	*New Jersey	36
8	Missouri	33
9	Arizona	26
10	Massachusetts	23
11	North Carolina	21
**12	Georgia	20
**13	Michigan	20
**14	Colorado	18
**15	Virginia	18
**16	♣Washington	18
17	Minnesota	16
18	Indiana	15

* Illinois, New York, and New Jersey, have organized State Chapters of the College and have received Charters by the Board of Regents of the College.

♣ Washington affiliates with the Northwest Section of the American College of Chest Physicians, comprised of the following states: Oregon, Idaho, Montana, and Washington.

** Illinois and Texas are tied for fifth place in the standing of the states, each having 39 members as of December 31, 1940. Georgia and Michigan are tied for twelfth place with 20 members each; while Colorado, Virginia, and Washington are tied for fourteenth place with 18 members each.

Cuba has organized the Cuban Chapter of the American College of Chest Physicians at Havana, December 24, 1940.

Pennsylvania is now in second place in the standing of the states. California has dropped from second to third place, but not more than two members separate these two states

in their official standing. Ohio has come up from fifth place to occupy position number four in the standing of states, while Texas has dropped into a tie for fifth place with Illinois. Illinois has come up the ladder from eighth place, which was its official status in 1939. All of the states have shown a substantial increase in membership during 1940, with New York State maintaining its lead to be the number one state in membership in the College.

TUBERCULOSIS COMMITTEE APPOINTED

At the annual meeting of the Fulton County Medical Society of Georgia, on January 2, 1941, Dr. Champ Holmes was re-appointed Chairman of the Tuberculosis Committee, and the following members are named to serve on this committee:

Dr. F. M. Atkins,
Dr. Bernard Wolff,
Dr. C. W. Strickler, Jr.,
Dr. Robert C. Major,
Dr. J. C. Burch.

SCIENTIFIC EXHIBIT

The Committee on Scientific Exhibits of the American College of Chest Physicians is planning their exhibit in the Section on Scientific Exhibits of the American Medical Association to be held at Cleveland, June 2-6, 1941.

Members of the College who are interested in displaying their material are invited to communicate with Dr. J. M. Appel, Chairman, Committee on Scientific Exhibits, American College of Chest Physicians, 635 Rose Building, Cleveland, Ohio.

Full particulars will be submitted by the chairman of the committee upon request. It is essential that your application for space in the exhibit be presented promptly.

The other members of this committee are: Dr. Harold Curtis, Cleveland; Dr. Dean H. Minnis, Amherst; and Dr. H. C. Schock, Cleveland.

The American College of Chest Physicians will hold its Seventh Annual Meeting at the Statler Hotel, Cleveland, May 31 - June 2, 1941.

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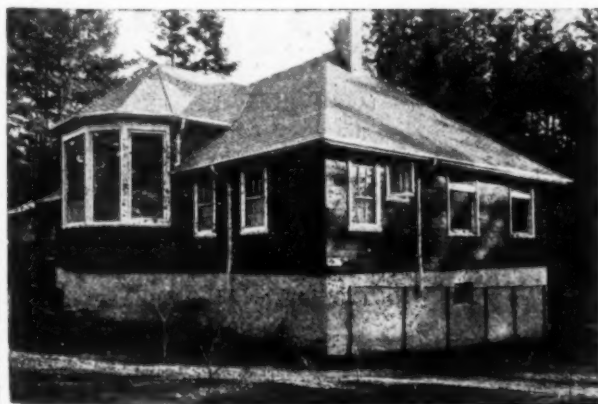
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Organization News

REPORT OF THE MEMBERSHIP COMMITTEE OF THE AMERICAN COLLEGE OF CHEST PHYSICIANS

The Membership Committee of the American College of Chest Physicians submits the following report compiled by states, showing the progress made by the College in admitting new Fellows and Associates, during the year. (Compiled as of December 31, 1940).

STATE	Listed in 1940 Directory	New Fellows Admitted	Associates Admitted	TOTAL	Applications Pending
Alabama	5	1		6	
Arizona	23	2	1	26	1
Arkansas	2	2	1	5	
California	46	7	3	56	12
Colorado	16	1	1	18	2
Connecticut	4	3		7	
Delaware	2			2	
Dis. Columbia	10	2		12	
Florida	11	1	1	13	1
Georgia	16	3	1	20	2
Idaho	1		2	3	
Illinois	23	15	1	39	2
Indiana	9	6		15	1
Iowa	5	5		10	
Kansas	3	1		4	
Kentucky	4	2		6	
Louisiana	10	2		12	
Maine	6			6	
Maryland	3	7	1	13	1
Massachusetts	13	9	1	23	6
Michigan	13	4	3	20	1
Minnesota	10	5	1	16	1
Mississippi	3		2	5	1
Missouri	19	7	7	33	3
Montana	1		1	2	
Nebraska	3	1		4	
Nevada					
New Hampshire	1	2		3	
New Jersey	25	9	2	36	4
New Mexico	9			9	
New York	66	39	7	112	18
N. Carolina	20	1		21	1

N. Dakota					
Ohio	26	20	3	49	9
Oklahoma	6	1	1	8	2
Oregon	6	1	1	8	
Pennsylvania	39	16	3	58	3
Rhode Island	5	1		6	1
S. Carolina	5	4		9	
S. Dakota		1		1	
Tennessee	4	3	1	8	
Texas	34	5		39	5
Utah	2	1		3	
Vermont	1			1	1
Virginia	15	3		18	3
Washington	15	3		18	
W. Virginia	5	3	1	9	1
Wisconsin	11	2		13	
Wyoming					
U. S. Possessions	8	4		12	2
Foreign	11	7	5	23	
	577	212	51	840	84

Every applicant was thoroughly investigated by the Board of Regents and the House of Governors of the College. No applicant was accepted without being able to meet the minimum requirements for a Fellowship or an Associateship in the College.

The committee recommends that the requirements for admittance into the College be raised from year to year, and that written examinations be required of all new applicants for a Fellowship in the College. This recommendation is now being voted upon by the Board of Regents of the College.

Dr. Jay Arthur Myers, Minneapolis, Minn., *Chairman*; Dr. Victor F. Cullen, State Sanatorium, Md., *Vice-Chairman*; Dr. Paul H. Holinger, Chicago, Illinois, *Secretary*; Dr. Robinson Bosworth, East St. Louis, Ill.; Dr. Hugh A. Farria, St. John, N. B., Canada; Dr. Mack M. Green, Panama Canal Zone, Panama; Dr. Robert B. Homan, Jr., El Paso, Texas; Dr. Carl R. Howson, Los Angeles, California; Dr. Smith J. Mann, Washington, D. C.; Dr. C. Howard Marcy, Pittsburgh, Pa.; Dr. Louis J. Moorman, Oklahoma City, Okla.; Dr. George G. Ornstein, New York, N. Y.; Dr. Richard H. Overholt, Brookline, Mass.